REMARKS

Claim 27 is pending in this application. In the Office Action dated April 25, 2005, the Examiner took the following action: (1) objected to the drawings; and (2) rejected claim 27 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,874,215 to Montagu in view of U.S. Patent No. 5,867,302 to Fleming.

The disclosed embodiments of the invention will now be discussed in comparison to the applied references. Of course, the discussion of the disclosed embodiments, and the discussion of the differences between the disclosed embodiments and the subject matter described in the applied references, do not define the scope or interpretation of any of the claims. Instead, such discussed differences merely help the Examiner appreciate important claim distinctions discussed thereafter.

A disclosed embodiment of the invention is directed to an optical scanning system that is capable of not only scanning to create an image, collect an image, etc.; but is also capable of correcting for optical aberrations in the optical scanning system, correcting for optical path length variations, provide focus correction, etc. One example of the disclosed optical scanning system is shown in Figure 8. The system 82 includes a resonant reflector 56 that horizontally scans at a resonant frequency, and a reflector and 58 that scans vertically. Also included is a corrective mirror 100 that includes a reflective microelectromechanical deformable membrane from which light from a light source 50 is reflected onto the horizontal scanning mirror 56 and then onto the vertical scanning mirror 58. By including the reflective deformable membrane, the mirror 100 can correct for a variety of aberrations, some of which are explained with respect to Figs. 44-53. Although the reflective deformable membrane is mounted on a separate corrective mirror 100 in the embodiment of Figure 8, it will be understood that the reflective deformable membrane can be aligned anywhere in the path of the light from the light source 50, such as on the resonant horizontally scanning reflector 56, on a vertically scanning reflector 58, etc.

The references applied in the Office Action are the patent to Montagu and the patent to Fleming. The Montagu patent has been cited for disclosing an optical scanning system having a primary mirror that moves through a predetermined scan path at a selected scan rate, and a resonant reflector aligned to the primary mirror. Without addressing the merits of the

contention that the Montagu patents disclose this subject matter, applicants note the Office Action admits that the Montagu patent does not disclose the use of a deformable microelectromechanical reflective membrane aligned to reflect light from a primary mirror. Instead, the patent to Fleming has been cited to supply this teaching.

The patent to Fleming discloses a bistable micromechanical actuator including a stressed membrane that can assume either of two positions and thus function as a nonvolatile memory element or a binary optical modulator. The embodiment of Figures 4a and 4b use a flat mirror carried by each of two membrane sections. The embodiments of Figures 7a and 7b use a single flat mirror mounted on the deformable membrane that tilts in opposite directions depending upon the state of the deformable member. However, it is significant that (1) the mirrors themselves are not deformable, and (2) the deformable membrane is not disclosed to be reflective. Therefore, the Fleming patent does not teach or suggest a reflective deformable membrane used for any purpose and particularly not used in an optical scanning system where it can perform such functions as correcting for aberrations. Moreover, the Fleming patent must be considered non-analogous art since it relates to a different field and attempts to solve a different problem, *i.e.*, providing binary optical modulation rather than correcting aberrations. In addition, neither the Montagu patent nor the Fleming patent disclose anything that would suggest the desirability of combining their respective teachings.

Not only is there are no suggestion in either reference to combine their respective teachings and no teachings in the Fleming patent of a reflective deformable membrane, but the subject matter of claim 27 would not result from combining the teachings of Montagu with the teachings of Fleming. If, as suggested in the Office Action, Fleming's deformable membrane was substituted for the resonant reflector used in the Montagu system, the result would be light striking a deformable member that was not necessarily reflective, since there is nothing in the Fleming patent that suggests making the deformable membrane reflective. Alternatively, combining the teachings of Montagu with the teachings of Fleming would result in the flat mirrors of Fleming being substituted for the resonant reflector used in the Montagu system. However, this combination would also not result in a reflective deformable membrane. Furthermore, the resulting system would not work for its intended scanning function since the Fleming mirror substituted for Montagu's resonant reflector is a binary mirror having only two

positions. Yet in order to perform a scanning function, the reflector must move over a range of positions. For all of these reasons, the subject matter claim 27 clearly would not have been obvious over the cited references.

Applicants are also amending the specification to avoid the need for drawing corrections to obviate the objection to the drawings.

Claim 27 is now clearly allowable. Favorable consideration and a timely Notice of Allowance are earnestly solicited.

Respectfully submitted,

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